

REMARKS

Claims 1, 2, 5, 10-13, 17-19, 21, 25-28, 32 and 34-43 are pending. By this Amendment, claims 1, 2, 5, 10, 11, 13, 17-19, 21, 25, 27, 28, 32 and 34 are amended, claims 3, 7, 9, 14-16, 20, 23, 29-31 and 33 are cancelled without prejudice or disclaimer, and claims 35-43 are added. No new matter is added.

Claims 1, 2, 5, 10-13, 17-19, 21, 25-28, 32 and 34-43 are amended to improve form. Support for the claims is found in the Disclosure as originally filed.

It is respectfully submitted that entry of the amendment is proper as the amendment would place the application in condition for allowance or at least present the claims in better form for appeal. Further, the amendments do not raise new issues, and do not require more than nominal consideration by the Examiner.

For the following reasons, reconsideration is respectfully requested.

Rejections under 35 U.S.C. §103

Claims 1, 9-11, 17, 25, 26 and 32-34 are rejected under 35 U.S.C. §103(a) as unpatentable over Park (US PGPub 2001/0009537), in view of Ijtsma et al. (US Patent No. 6,606,285), and further in view of Joo (US Patent No. 6,249,884). The rejection of cancelled claims 9 and 33 is moot. The rejection of claims 1, 10, 11, 17, 25, 26, 32 and 34 is respectfully traversed.

It is respectfully submitted that Park, Ijtsma and Joo, either individually or in combination, does not disclose or suggest, a method for managing a write-once optical recording medium having at least one defective area in a user data area, wherein the optical recording

medium comprises one or more temporary defect management areas and a final defect management area, and said method comprises: (a) recording data of the at least one defective area existing in the user data area into a spare area of the optical recording medium as replacement data and providing a first temporary defect list having a defect entry for the at least one defective area; recording, in one of the one or more temporary defect management areas, a cumulative temporary defect list for an additional defective area in the user data area, wherein the cumulative temporary defect list includes the first temporary defect list previously recorded and at least one additional defect entry for any additional defective area, each defect entry including position information of a corresponding defective area and position information of replacement data to replace data of the corresponding defective area; (b) recording, in the same temporary defect management area on which the cumulative temporary defect list is recorded, access information for accessing the cumulative temporary defect list; and (c) recording a latest cumulative temporary defect list recorded in the one temporary defect management area in the final defect management area when the optical recording medium is to be finalized, wherein after finalizing the optical recording medium no additional recording is made to the optical recording medium, wherein the one or more temporary defect management areas are separately positioned from the final defect management area, and/or the combination, as claimed in claim 1.

It is respectfully submitted that Park, Ijtsma and Joo, either individually or in combination, does not disclose or suggest a write-once recording medium comprising at least one spare area and a user data area within a data area; one or more temporary defect management areas for managing replacement data of at least one defective area within the user data area, the one or more temporary defect management areas configured to store a plurality of cumulative

temporary defect lists and access information, the access information being used for accessing a corresponding cumulative temporary defect list and being stored in the same temporary defect management area on which the corresponding cumulative temporary defect list is stored, wherein one of the cumulative temporary defect lists includes management information for the replacement data of said at least one defective area cumulatively recorded and management information for replacement data for at least one additional defective area of the user data area, each defect entry of the plurality of cumulative temporary defect lists including position information of a corresponding defective area and position information of replacement data to replace data of the corresponding defective area, wherein after the recording medium is finalized no additional recording is made to the recording medium; and a final defect management area for storing a latest cumulative temporary defect list recorded in the one or more temporary defect management areas when the recording medium is to be finalized, wherein the one or more temporary defect management areas are separately positioned from the final defect management area, and/or the combination, as claimed in claim 17.

It is respectfully submitted that Park, Ijtsma and Joo, either individually or in combination, does not disclose or suggest an apparatus for managing an optical recording medium having at least one defective area in a user data area, wherein the recording medium comprises one or more temporary defect management areas and a final defect management area, and said apparatus comprises a recording unit configured to record data of the at least one defective area into a spare area in the optical recording medium as replacement data and to provide a first temporary defect list having a defect entry for the at least one defective area; the recording unit being configured to record, in at least one of the one or more temporary defect

management areas, a cumulative temporary defect list for an additional defective area in the user data area, wherein the cumulative temporary defect list includes the first temporary defect list previously recorded and at least one additional defect entry for any additional defective area, each of the defect entry including position information of a corresponding defective area and position information of replacement data to replace data of the corresponding defective area, the recording unit being configured to record, in the same temporary defect management area on which the cumulative temporary defect list is recorded, access information for accessing the cumulative temporary defect list; and the recording unit being configured to record a latest cumulative temporary defect list recorded in the one or more temporary defect management areas into a final defect management area when the optical recording medium is to be finalized, wherein after finalizing the optical recording medium no additional recording is made to the optical recording medium, and the one or more temporary defect management areas are separately positioned from the final defect management area, and/or the combination, as claimed in claim 32.

First, it is asserted in the Office Action that Park, Ijtsma and Joo disclose a cumulative temporary defect list, as claimed in claims 1, 17 and 32. Applicants respectfully disagree, and submit that all of Park, Ijtsma and Joo is deficient because Park, Ijtsma and Joo either do not disclose where and how a new defect entry for a defective area that is newly detected is recorded, or do not disclose that the new defect entry for the defective area that is newly detected is recorded cumulatively with a previous defect entry. Namely, Park, Ijtsma and Joo do not specify or teach whether the new defect entry is recorded separate from the defect entry that is recorded previously, or whether new temporary defect list includes cumulatively both the defect entry

recorded previously and the new defect entry that is generated and recorded in a temporary defect management area (TDMA). In fact, since Park, Ijtsma and Joo are all directed to rewritable discs, the previous defect entry therein is simply written over the same spot on the respective rewritable discs, so that Park, Ijtsma and Joo do not disclose or suggest the recited cumulative temporary defect list that includes the first temporary defect list previously recorded and at least one additional defect entry for any additional defective area, for example. Accordingly, claims 1, 17 and 32 are patentably distinguishable over all of the applied references and/or their combination.

Second, Park, Ijtsma and Joo do not disclose, recording, in the same temporary defect management area on which the cumulative temporary defect list is recorded, access information for accessing the cumulative temporary defect list, as claimed in claim 1, and as similarly claimed in claims 17 and 32. In the case of Park, for example, each defect management area (DMA) simply includes a primary defect list (PDL) and a secondary defect list (SDL). Park, however, does not disclose that the DMA, PDL and the SDL include access information for accessing the cumulative temporary defect list (see paragraphs [0029]-[0034] of Park).

Moreover, only one version of the primary defect list (PDL)/secondary defect list (SDL) exists in the defect management areas (DMAs) of Park because Park is directed to a rewritable disc. In fact, although a disc of Park has four DMAs, each of them has the same disc definition structure (DDS) and the primary defect list (PDL)/secondary defect list (SDL), i.e. the same version of the DDS and the PDL/SDL (see paragraph [0029] at lines 1-11 of Park).

In contrast to Park, claims 1, 17 and 32 are directed to allowing several versions of the temporary defect lists (TDFLs) and several versions of access information to exist in one or more

TDMA's, and further, the TDFLs and/or access information in a TDMA are not the same as that of another TDMA, since for example, the recited temporary defect list (TDFL) is one that is cumulative. Further, Ijtsma and Joo, also being directed to a rewritable disc, suffer from the same deficiency found in Park. That is, the other cited references, as well as Park, do not teach where and how a new version of their disc definition structure (DDS) for a new version of their PDL/SDL is recorded in the disc without erasing or overwriting previous versions of their DDS & PDL/SDL, so that the recording, in the same temporary defect management area on which the cumulative temporary defect list is recorded, access information for accessing the cumulative temporary defect list, as claimed in claim 1, and as similarly claimed in claims 17 and 32 is novel over all the applied references. Accordingly, claims 1, 17 and 32 are additionally patentably distinguishable over all of the applied references and/or their combination.

Third, in addition to the acknowledged deficiencies, Park is further deficient because Park does not disclose or suggest the recited final defect management area. It is asserted in the Office Action that "since a secondary defect list (SDL), located in a defect management area (DMA), is updated at the recording time the location of defect information that remains when recording is ended is considered the final defect management area". Applicants respectfully disagree because the updated SDL of Park is recorded at the same portion of the DMA of the rewriteable disc of Park, so that only the same portion of the DMA of Park is used again to record a latest version of the SDL. In contrast, claim 1 recites recording the latest cumulative temporary defect list recorded in the temporary defect management area in a final defect management area when the recording medium is to be finalized. That is, it is clear that the final defect management area is one that is different from the temporary defect management area, as

claimed in claim 1, and as similarly claimed in claims 17 and 32. Accordingly, the recited cumulative temporary defect list that is recorded in the TDMA before the recording medium is to be finalized, and the recited latest cumulative temporary defect list that is recorded in a DMA when the recording medium is to be finalized, of claim 1 and similarly of claims 17 and 32 are patentable.

Additionally, since Park does not disclose or teach that the SDL that remains at the end of recording is recorded in an area separate from the DMA at which all the previous SDLs are recorded, it would be unreasonably broad to interpret the DMA of Park in which the SDL remains at the end of recording as disclosing a final defect management area, as recited in claims 1, 17 and 32. Moreover, since Park is directed to a rewritable disc, the updated SDL of Park will be recorded at the same position of the DMA of Park's disc, as noted above. Furthermore, claims 1 and 17 are directed to a write-once recording medium so that an updated TDFL cannot be recorded at the same position at which a previous TDFL is recorded, for further distinction between the applied references, especially Park, and claims 1 and 17.

Fourth, as noted in the Office Action, the Examiner acknowledged that Park is deficient, but asserts that Ijtsma remedies the noted deficiencies of Park. Applicants respectfully disagree. Specifically, the Examiner asserts that Ijtsma discloses a TDMA positioned separately from a final DMA. In more detail, the Examiner insists that the secondary defect table (SDT) of Ijtsma that is updated when the disc is ejected from a recorder serves as a final defect management area when a recording medium is finalized. Further, the Examiner interprets that the early eject of a disc in Ijtsma is an example of disc finalization.

With respect to the SDT, it appears the interpretation in the Office Action is that the SDT of Ijtsma is correlated to the recited TDMA, and TDT of Ijtsma is correlated to the recited DMA. Such an interpretation is respectfully traversed. It is respectfully submitted that the TDT of Ijtsma is a temporary DT generated only when a disc is ejected early, and is not generated when the disc is to be finalized. Ijtsma does not disclose an embodiment related to a temporary general purpose area (GPA) except for when the disc is rejected early, so that the TDT of Ijtsma is limited to being recorded in a temporary GPA only when the disc is ejected early (see, for example, FIGS. 15 & 16 of Ijtsma). From col. 12, lines 26-32 of Ijtsma, a person of ordinary skill in the art can easily conceive that the TDT is a temporary DT that exists before completion of formatting of the disc that is rejected early, and since the temporary GPA may be overwritten by a new write operation, the TDT recorded in the temporary GPA will be overwritten by a new write operation. Accordingly, in no sense can the TDT can be a "final" defect management information, and in no sense can the TGPA be a final defect management area.

Additionally, since Ijtsma describes a disc finalization independently from the early eject of a disc (See, for example, col. 2, lines 32-42, and col. 11, lines 1-22 of Ijtsma), the early eject of a disc is not the recited disc finalization of claims 1, 17 and 32. Besides, in Ijtsma, de-icing of a formatting process is restarted if the early ejected disc is inserted (See, for example, col. 12, lines 19-33 of Ijtsma). Namely, in Ijtsma, recording can be made to an early ejected disc. On the contrary, claims 1, 17 and 32 recite that no additional recording can be made to a recording medium after finalizing the recording medium.

Further, as claims 1 and 17 relate to a write-once recording medium, the TDMA therein have different versions of the TDFL recorded therein, which is further distinguishing from the applied references, and especially Ijtsma.

Fifth, as noted in the Office Action, the Examiner acknowledges that Park and Ijtsma are deficient, but the Examiner asserts that Joo remedies the noted deficiencies of Park and Ijtsma. The Examiner asserts in the Office Action, that Joo teaches “the cumulative temporary defect list is recorded on a different area from an area into which the first temporary defect list is recorded”. Upon a closer review of Joo, Applicants note that Joo discloses in FIG. 2 and col. 5, lines 33-58 that only “addresses of defective blocks and replaced blocks are recorded sequentially into SDL2~SDL16, so that Joo does not disclose or suggest that updated data from SDL n-1 is recorded into SDL n (See especially, col. 5, lines 41-43 of Joo). Since the SDL region of Joo has only 16 sectors and Joo relates to a rewritable disc, SDL2~SDL16 would be a region for recording defect entries rather than respective defect lists.

Accordingly, claims 1, 17 and 32 are patentably distinguishable over the applied references and their combination. Claims 10, 11 and 34, which depend from claim 1; and claims 25 and 26, which depend from claim 17, are likewise patentably distinguishable over the applied references and their combination for at least the reasons discussed above and/or for the additional features they recite. Withdrawal of the rejection is respectfully requested.

Claims 2, 3, 5, 12, 16, 18-21, 27 and 31 are rejected under 35 U.S.C. §103(a) as unpatentable over Park, Ijtsma and Joo, and further in view of Ohata (US Patent No. 6,469,987).

The rejection of cancelled claims 3, 16, 20 and 31 is moot. The rejection of claims 2, 3, 12, 18, 19, 21 and 27 is respectfully traversed.

As discussed above, Park, Ijtsma and Joo, either individually or in combination, fail to disclose or suggest each and every feature of claim 1, from which claims 2, 5 and 12 depend, and fail to disclose each and every feature of claim 17, from which claims 18, 19, 21 and 27 depend. Ohata fails to remedy at least the above noted deficiencies of Park, Ijtsma, Joo, and their combination. Accordingly, claims 2, 3, 12, 18, 19, 21 and 27 are patentably distinguishable over the applied references and their combination for at least the reasons stated above and/or for the additional features they recite. Withdrawal of the rejection is respectfully requested.

Claims 7 and 23 are rejected under 35 U.S.C. §103(a) as unpatentable over Park, Ijtsma and Joo, and further in view of Lee et al. (US Patent No. 6,934,236). This rejection is moot as claims 7 and 23 are cancelled.

Claims 13-15 and 28-30 are rejected under 35 U.S.C. §103(a) as unpatentable over Park, Ijtsma, Joo, and Ohata, and further in view of Takahashi (US Patent No. US PGPub 2002/0136537). The rejection of cancelled claims 14, 15, 29 and 30 is moot. The rejection of claims 13 and 28 is respectfully traversed.

As discussed above, Park, Ijtsma and Joo, either individually or in combination, fail to disclose or suggest each and every feature of claim 1, from which claims 13 depends, and fail to disclose each and every feature of claim 17, from which claim 28 depends. As further noted above, Ohata also fails to remedy at least the above noted deficiencies of Park, Ijtsma, Joo, and

their combination. Takashi also fails to remedy at least the deficiencies of Park, Ijtsma, Joo, Ohata and their combination. Accordingly, claims 13 and 28 are patentably distinguishable over the applied references and their combination for at least the reasons stated above and/or for the additional features they recite. Withdrawal of the rejection is respectfully requested.

New Claims

New claims 35-43 are patentable for at least for similar reasons as discussed above and/or for their added features. Consideration and allowance are respectfully requested.

Conclusion

In view of the above amendments and/or remarks, Applicants believe the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Seth S. Kim, Reg. No. 54,577, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

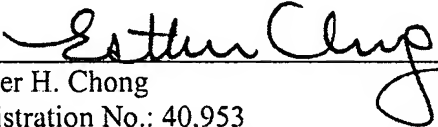
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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

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